

REMARKS

This Amendment is submitted in response to the non-final Office Action mailed on May 29, 2008. No fee is due in connection with this Amendment. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112857-518 on the account statement.

Claims 11-18 are pending in this application. In the Office Action, Claim 13 is objected to. Claims 11-18 are rejected under 35 U.S.C. §103. In response, Claims 11-18 have been amended. The amendments do not add new matter. At least in view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the objections and rejections should be withdrawn.

Applicants note that dependent Claims 12 and 14-17 have been amended solely for clarification purposes in order to be consistent with currently amended independent Claim 11.

In the Office Action, Claim 13 is objected to for an informality. The Examiner asserts that the phrase “has any one of both a hole transporting property and an electron transporting property and both an electron transporting property and a hole blocking property” is confusing. See, Office Action, page 2, lines 12-14. In response, Applicants have amended Claim 13 to recite, in part, an organic EL device wherein the intermediate layer has a hole transporting property and an electron blocking property. Furthermore, Applicants have added Claim 19 which recites, in part, an organic EL device wherein the intermediate layer has an electron transporting property and a hole blocking property. The amendment and newly added claim do not add new matter. The amendment and newly added claim are supported in the Specification at, for example, paragraph 9, lines 4-17 and 20-29; paragraph 62, lines 1-15. Thus Applicants respectfully submit that the objection to Claim 13 be withdrawn.

In the Office Action, Claims 11-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application No. 2004/0032214 A1 to Lee et al. (“Lee”) in view of U.S. Patent Application No. 2004/0012331 A1 to Yamazaki et al. (“Yamazaki”). In response, Applicants have amended independent Claims 11 and 18. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that the cited references fail to disclose or suggest each and every element of independent Claims 11 and 18 and Claims 12-17 that depend therefrom.

Currently amended independent Claims 11 and 18 recite, in part, an organic EL device comprising: a plurality of light emitting layers including a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order between an anode and a cathode; and an intermediate layer comprised of an organic material provided in at least one location between the light emitting layers, wherein the green light emitting layer has a hole transporting property and an electron transporting property. These amendments do not add new matter. The amendments are supported in the Specification at, for example, paragraph 47, lines 1-4; paragraph 48, lines 1-17; paragraph 52, lines 1-3; paragraph 53, lines 1-10.

Organic electroluminescence (EL) devices are desirable because they are displays capable of being driven with low power consumption. See, Specification, paragraph 2, lines 4-9. In order to achieve a full-color display mode, an organic EL device is combined with color filters which transmit light only in the blue, green and red wavelength regions. See, Specification, paragraph 3, lines 1-6. Prior art organic EL devices include a blue light emitting layer, a green light emitting layer and a red light emitting layer laminated in respective order from the hole transport layer side and including three wavelength light emission components. See, Specification, paragraph 3, lines 6-11. However, such prior art devices have an insufficient balance of luminous intensities in the blue, green and red wavelength regions. See, Specification, paragraph 4, lines 1-4. Therefore, the present claims provide an organic EL device with a good balance of luminous intensities between the red, green and blue wavelength regions. See, Specification, paragraph 5, lines 1-4. The organic EL device includes red, green, and blue light emitting layers laminated in that order between an anode and a cathode with an intermediate layer provided between the light emitting layers. See, Specification, paragraph 6, lines 1-6. The intermediate layer prevents the energy of excitons generated by one light emitting layer from being transferred to the other light emitting layers, thereby maintaining a good balance of luminous intensities between the light emitting layers. See, Specification, paragraph 7, lines 1-8. Furthermore, the green light emitting layer has both an electron transporting property and a hole transporting property to ensure a good balance of luminous intensities by: (1) allowing some of the holes injected in the red light emitting layer to contribute to emission in the green and blue light emitting layers; and (2) allowing some of the electrons injected in the blue light emitting layer to contribute to light emission in the red and green light emitting layers. See,

Specification, paragraph 47, lines 1-12. In contrast, the cited references fail to disclose or suggest every element of the present claims.

For example, the cited references fail to disclose or suggest a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order between an anode and a cathode, wherein the green light emitting layer has a hole transporting property and an electron transporting property as recited, in part, by currently amended independent Claims 11 and 18. The Examiner asserts that *Lee* discloses a red light emitting layer, a green light emitting layer and a blue light emitting layer with an intermediate layer provided between the light emitting layers. See, Office Action, page 3, lines 4-9. However, nowhere does *Lee* disclose a green light emitting layer with a hole transporting property and an electron transporting property, nor does the Examiner cite support for such claimed element. Instead, *Lee* merely discloses that “[a]n organic electroluminescent material for emitting green light may be tris(8-hydroquinolinato) aluminum (Alq3).” See, *Lee*, paragraph 30, lines 5-7. The examples in *Lee* also disclose only Alq3 as a green light emitting layer. See, *Lee*, paragraph 39, lines 7-9; paragraph 40, lines 3-6; paragraph 41, lines 7-9. Applicants respectfully submit that Alq3 alone is not a green light emitting layer with a hole transporting property and an electron transporting property as required, in part, by the present claims.

Instead, the green light emitting layer of the present claims is formed by methods including: (1) doping a positive and negative charge transporting host with a green light emitting material; (2) doping a hole transporting host with an electron transporting green light emitting material; (3) doping an electron transporting host with a hole transporting green light emitting material; or (4) doping a mixed host composed of a hole transporting material and an electron transporting material with a green light emitting material. See, Specification, paragraph 48, lines 1-11. An example of such a green light emitting layer is a mixture of DPVBi and α -NPD in a mixing ratio of 1:1 as a host doped with 1% of cumarin. See, paragraph 85, lines 1-5. Alq3 is used merely as an electron transport layer. See, Specification, paragraph 88, lines 1-3. As such, Applicants respectfully submit that Alq3 is not a green light emitting layer with both an electron transporting property and a hole transporting property. Because *Lee* is entirely directed to Alq3 as a green light emitting layer, *Lee* thus fails to disclose a green light emitting layer in accordance with the present claims.

Yamazaki is entirely directed to a light emitting device having an organic compound in which heat generation can be effectively removed or decreased. See, *Yamazaki*, paragraph 11, lines 1-4. The Examiner relies on *Yamazaki* merely for the disclosure of utilizing red, green and blue light emitting layers to generate white light. See, Office Action, page 3, lines 11-15. Nowhere does *Yamazaki* disclose a green light emitting layer that has a hole transporting property and an electron transporting property, nor does the Examiner cite support for such claimed element. Therefore, the cited references fail to disclose a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order between an anode and a cathode, wherein the green light emitting layer has a hole transporting property and an electron transporting property as required, in part, by the present claims.

Accordingly, Applicants respectfully request that the rejection of Claims 11-18 under 35 U.S.C. §103(a) to *Lee* and *Yamazaki* be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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